

Remarks:

Claims 1-20 and 24-31 are pending in the present application. By this Amendment, claims 1 and 9 are amended to remove the language added in the amendment of January 5, 2007 and alleged to constitute new matter. The amendment to claim 9 also cures the lack of antecedent basis for the term "R¹". Claim 18 is also amended to remove the language for which there was insufficient antecedent basis. Claim 28 is amended to conform with the requirements of 37 CFR 1.121(c), as noted by the examiner. As amended, claim 28 incorporates the limitation of claim 15, one of the claims from which it depended in its original form. All the amendments are made to conform with the requirements of form set forth in the Final Office Action, and no new matter is added to the claims by these amendments. Furthermore, all the amendments place the claims in better condition for allowance or alternately, for appeal. Accordingly, entry of the amendments to the claims is respectfully requested.

Claim Rejections under 35 U.S.C. §112

Claims 1-20 and 24-31 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the phrase "with the proviso that R¹ is not a heterocyclic base" was said to lack basis in the specification as filed. Applicants have removed this language from claims 1 and 9, rendering the rejections moot. The rest of the rejected claims are dependent on these two independent claims, and therefore the rejections are mooted for these claims as well.

Claims 9-20 and 24-31 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the term "with the proviso that R¹ is not a heterocyclic base" was said to lack antecedent basis, because there was no R¹ moiety in the formula of claim 9. Applicants have removed this language from claim 9, rendering the rejection moot. The rest of the claims (10-20, 24-31) are dependent on claim 9, and therefore the rejections are mooted for these claims as well.

Claim 18 was further rejected under 35 U.S.C. §112, second paragraph, as being indefinite for inclusion of the term "the second fluorescent label", which was also said to lack antecedent basis. The claim has been amended to remove this language, rendering the rejection moot. Accordingly, reconsideration and withdrawal of the rejections of claims 1-20 and 24-31 under 35 U.S.C. §112 is respectfully requested.

Previous Claim Rejections under 35 U.S.C. §103(a):

In a previous Office Action, mailed September 7, 2006, claims 1-3 and 9-11 were rejected under 35 U.S.C. §103(a) as obvious over De Clerq et al. (US Patent No. 5,607,922) and Alexander et al. (US Patent No. 5,659,023) in view of Daluge et al. (WO 9521161 A1). De Clerq et al. was cited for teaching 1,5-anhydrohexitol nucleoside analogues having a base at the C2 position of the hexitol ring. Alexander et al. was cited as teaching nucleotide analogues containing a 1,5- anhydrohexitol and a modified purine or pyrimidine nucleobase, that are useful for labeling oligonucleotide probes. DaLuge et al. was cited as teaching particular pyrimidine derivatives, wherein the compounds may be linked via an amine to a hexitol or cyclopentene ring.

In a response filed on January 5, 2007, Applicants argued that each of the references teaches compounds having a nucleobase coupled to the sugar or cycloalkenyl moiety, and none of the references teach or suggest a compound lacking a nucleobase. In a telephonic interview held on Dec. 12, 2006, the examiner asserted that a nucleobase linked to a hexitol through an amine group, as taught by Daluge et al., could function as a protecting group in the R¹ position of the -NH-[X]_n-R¹ moiety recited in claims 1 and 9, if n = 0. However, as noted by the Applicant in the January 5, 2007 response, the term “protecting group” is defined in the specification as a group that protects a functional group from reacting in an undesired way, and further that can be removed without destroying the biological activity of the molecule (see specification, page 9, line 32 to page 10, line 2). The applicants cited to examples given in the specification of compounds that are possible protecting groups for exocyclic amines, including acyl groups (e.g., a benzoyl, phenoxyacetyl, acetyl or formyl group) and the amidine protecting groups (e.g., N,N-dialkylformamidines) (page 10, lines 8-11). Nucleobases cannot be removed from the compounds taught in the cited references without destroying the biological activity of those molecules, and nucleobases are not represented in the classes of compounds taught in the present specification as examples of exocyclic amine protecting groups. Furthermore, protecting groups are typically inert, unable to react significantly with other species other than those used to remove the protecting group from the molecule. In contrast, nucleobases have multiple different potential reactive sites, which could potentially interfere with subsequent chemical steps, or cause undesired reactions among components in a reaction mixture. Accordingly, Applicants asserted, one of skill in the art would not understand a nucleobase in the R¹ position of the -NH-[X]_n-R¹ moiety recited in claims 1 and 9 to be a functional protecting group.

Applicants note that the present Office Action expressly withdrew the rejections of claims 1-3 and 9-11 over the prior art in response to the Applicants' arguments presented

in the January 5, 2007 response, and not in response to the amendments made therein (Office Action, page 2). Therefore, the amendments to the claims made herein in response to the new matter rejection in the pending Office Action should not require reinstatement of those prior art rejections. Applicants also note that the amendments to the claims made herein do not raise issues of new matter; indeed, with respect to certain pending rejections of claims 1-20 and 24-31 under 35 U.S.C. §112, first paragraph, the amendments cure new matter rejections. The amendments to claims 9 and 18 also address antecedent basis issues, and also do not raise new matter issues. The amendment to claim 28 corrects a formal matter regarding compliance with 37 CFR 1.121(c), and thus also does not raise new matter issues. Additionally, the discussion presented above does not raise new issues requiring additional search or consideration.

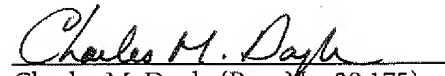
Conclusion:

In view of the above, Applicants respectfully submit that all amendments made herein place the claims in better condition for allowance or appeal, and therefore respectfully request their entry. Applicants hereby request a one-month extension of time for responding to the Office Action. The Commissioner is hereby authorized to charge the extension of time fee (large entity) under 37 CFR 1.17 to Account No. 50-0812. The Commissioner is further authorized to charge any fee deficiency, or credit any overpayment, to Deposit Account No. 50-0812.

If the Examiner believes a telephone conference would expedite prosecution of this application, she may telephone the undersigned directly at 510-814-2891.

Respectfully submitted,

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